WHAT IS CLAIMED IS:

1. An aberration detection device comprising:

light beam separation means for separating a light beam passing through a focusing optical system into a first light beam which includes a light axis of the light beam and a second light beam which does not include the light axis of the light beam, at a boundary drawn at an extreme value of a curve representing a wave front when the light beam has a minimum beam diameter on an information recording layer of an optical recording medium; and

spherical aberration detection means for detecting a spherical aberration of said focusing optical system, in accordance with at least one of focus positions of the two light beams separated by said light beam separation means.

2. The aberration detection device of claim 1, wherein:

said light beam separation means includes a first region for separating the first light beam, and a second region for separating the second light beam; and

said first and second regions are separated by said boundary, and said boundary is formed as a circle or an arc.

3. The aberration detection device of claim 1, wherein:

said light beam separation means is a hologram.

4. An aberration detection device comprising:

light beam separation means for separating a light beam passing through a focusing optical system into a first light beam which includes a light axis of the light beam and a second light beam which does not include the light axis of the light beam; and

aberration detection means for detecting a spherical aberration of said focusing optical system, in accordance with at least one of focus positions of the first light beam and the second light beam separated by said light beam separation means,

said aberration detection means including:

a first focus error detection section for detecting a focus position deviation of the first light beam from the first light beam, and outputting a first error signal; and

a second focus error detection section for detecting a focus position deviation of the second light beam from the second light beam, and outputting a second error signal,

wherein said aberration detection means obtains a spherical aberration error signal SAES showing an amount of the spherical aberration of said focusing optical system, from an equation:

$SAES = F1 - FES \times k1$ (k1: a coefficient),

where F1 is the first error signal, F2 is the second error signal, and FES, which is a focus error signal showing an amount of a focus error of said focusing optical system, is F1 + F2, and

said aberration detection means detects the spherical aberration by the spherical aberration error signal SAES.

5. An aberration detection device comprising:

light beam separation means for separating a light beam passing through a focusing optical system into a first light beam which includes a light axis of the light beam and a second light beam which does not include the light axis of the light beam; and

aberration detection means for detecting a spherical aberration of said focusing optical system, in accordance with at least one of focus positions of the first light beam and the second light beam separated by said light beam separation means,

said aberration detection means including:

a first focus error detection section for detecting a focus position deviation of the first light beam from the first light beam, and outputting a first error signal; and

a second focus error detection section for detecting a focus position deviation of the second light beam from the second light beam, and outputting a second error signal,

wherein said aberration detection means obtains a spherical aberration error signal SAES showing an amount of the spherical aberration of said focusing optical system, from an equation:

$SAES = F2 - FES \times k2$ ($k2$: a coefficient),

where F1 is the first error signal, F2 is the second error signal, and FES, which is a focus error signal showing an amount of a focus error of said focusing optical system, is $F1 + F2$, and

said aberration detection means detects the spherical aberration by the spherical aberration error signal SAES.

6. The aberration detection device of claim 4, wherein:

said light beam separation means includes a first region for separating the first light beam, and a second

region for separating the second light beam; and

said first and second regions are separated by a boundary, and said boundary is formed as a circle or an arc centered on the light axis of the light beam, having a radius virtually 70 percent of an effective radius of the light beam.

7. The aberration detection device of claim 4, wherein:

said light beam separation means includes a first region for separating the first light beam, and a second region for separating the second light beam;

said regions are separated by two separation lines which are parallel to a radial direction of an optical recording medium and identically distant from the light axis of the light beam;

the first region is a region separated by the separation lines, including the light axis of the light beam; and

the second region is regions at both ends separated by the separation lines.

8. The aberration detection device of claim 4, wherein:

said light beam separation means is a hologram.

9. The aberration detection device of claim 5, wherein:

said light beam separation means includes a first region for separating the first light beam, and a second region for separating the second light beam; and

said first and second regions are separated by a boundary, and said boundary is formed as a circle or an arc centered on the light axis of the light beam, having a radius virtually 70 percent of an effective radius of the light beam.

10. The aberration detection device of claim 5, wherein:

said light beam separation means includes a first region for separating the first light beam, and a second region for separating the second light beam;

said regions are separated by two separation lines which are parallel to a radial direction of an optical recording medium and identically distant from the light axis of the light beam;

the first region is a region separated by the separation lines, including the light axis of the light beam; and

the second region is regions at both ends separated

by the separation lines.

11. An aberration detection method comprising the steps of:

separating a light beam passing through a focusing optical system into a light beam which includes a light axis of the light beam and a light beam which does not include the light axis of the light beam, at a boundary drawn at an extreme value of a curve representing a wave front when the light beam has a minimum beam diameter on an information recording layer of an optical recording medium; and

detecting a spherical aberration of said focusing optical system, in accordance with at least one of focus positions of the separated two light beams.

12. An optical pick-up device comprising:

a light source;

a focusing optical system for focusing a light beam emitted from said light source onto an optical recording medium;

light beam separation means for separating a light beam reflected from said optical recording medium and passing through said focusing optical system, into a first light beam which includes a light axis of the light

beam and a second light beam which does not include the light axis of the light beam, at a boundary drawn at an extreme value of a curve representing a wave front when the light beam has a minimum beam diameter on an information recording layer of an optical recording medium;

spherical aberration detection means for detecting a spherical aberration of said focusing optical system, in accordance with at least one of focus positions of the two light beams separated by said light beam separation means; and

spherical aberration correction means for correcting the spherical aberration detected by said spherical aberration detection means.

13. The optical pick-up device of claim 12, wherein:

said light beam separation means includes a first region for separating the first light beam from the light beam, and a second region for separating the second light beam from the light beam; and

said first region and said second region are separated by a separation line which at least partially includes a straight line virtually parallel to a direction orthogonal to a track direction of said optical recording medium.

14. The optical pick-up device of claim 13, wherein: said light beam separation means is a hologram.

15. An optical pick-up device comprising:

a light source;

a focusing optical system for focusing a light beam emitted from said light source onto an optical recording medium;

light beam separation means for separating a light beam reflected from said optical recording medium and passing through said focusing optical system, into a first light beam which includes a light axis of the light beam and a second light beam which does not include the light axis of the light beam;

focus position deviation amount detection means for detecting a deviation amount of at least one of focus positions of the first light beam and the second light beam separated by said light beam separation means; and

correction means for correcting a spherical aberration of said focusing optical system in accordance with the deviation amount of the focus position detected by said focus position deviation amount detection means,

said focus position deviation amount detection means including:

a first focus error detection section for detecting a focus position deviation of the first light beam from the first light beam, and outputting a first error signal; and

a second focus error detection section for detecting a focus position deviation of the second light beam from the second light beam, and outputting a second error signal,

wherein said focus position deviation amount detection means obtains a spherical aberration error signal SAES showing an amount of the spherical aberration of said focusing optical system, from an equation:

$SAES = F1 - FES \times k1$ (k1: a coefficient),

where F1 is the first error signal, F2 is the second error signal, and FES, which is a focus error signal showing an amount of a focus error of said focusing optical system, is $F1 + F2$, and

said correction means corrects the spherical aberration in accordance with the spherical aberration error signal SAES obtained by said focus position deviation amount detection means.

16. An optical pick-up device comprising:

a light source;

a focusing optical system for focusing a light beam

emitted from said light source onto an optical recording medium;

light beam separation means for separating a light beam reflected from said optical recording medium and passing through said focusing optical system, into a first light beam which includes a light axis of the light beam and a second light beam which does not include the light axis of the light beam;

focus position deviation amount detection means for detecting a deviation amount of at least one of focus positions of the first light beam and the second light beam separated by said light beam separation means; and

correction means for correcting a spherical aberration of said focusing optical system in accordance with the deviation amount of the focus position detected by said focus position deviation amount detection means,

said focus position deviation amount detection means including:

a first focus error detection section for detecting a focus position deviation of the first light beam from the first light beam, and outputting a first error signal; and

a second focus error detection section for detecting a focus position deviation of the second light beam from the second light beam, and outputting a second error

signal,

wherein said focus position deviation amount detection means obtains a spherical aberration error signal SAES showing an amount of the spherical aberration of said focusing optical system, from an equation:

SAES = F2 - FES × k2 (k2: a coefficient),

where F1 is the first error signal, F2 is the second error signal, and FES, which is a focus error signal showing an amount of a focus error of said focusing optical system, is F1 + F2, and

said correction means corrects the spherical aberration in accordance with the spherical aberration error signal SAES obtained by said focus position deviation amount detection means.

17. The optical pick-up device of claim 15, wherein:

said light beam separation means includes a first region for separating the first light beam, and a second region for separating the second light beam; and

said first and second regions are separated by a boundary, and said boundary is formed as a circle or an arc centered on the light axis of the light beam, having a radius virtually 70 percent of an effective radius of the light beam.

18. The optical pick-up device of claim 15, wherein:

said light beam separation means includes a first region for separating the first light beam, and a second region for separating the second light beam;

said regions are separated by two separation lines which are parallel to a radial direction of an optical recording medium and identically distant from the light axis of the light beam;

the first region is a region separated by the separation lines, including the light axis of the light beam; and

the second region is regions at both ends separated by the separation lines.

19. The optical pick-up device of claim 15, wherein:

said focus position deviation amount detection means obtains the spherical aberration error signal SAES, taking the focus error signal FES as almost zero.

20. The optical pick-up device of claim 16, wherein:

said focus position deviation amount detection means obtains the spherical aberration error signal SAES, taking the focus error signal FES as almost zero.